

REAPING MACHINES.—The American inventions (or modification, it seems rather), by Hussey and McCormick, have been in more or less successful operation during the harvest in many parts of England, but on going into Scotland, to exhibit before the Highland Agricultural Society at Perth, Hussey's machine appears to have met with an unexpected and a formidable opponent in the father of all reaping machines, which has been in constant use for the last fifteen years, in that not very remote part of the country, and was invented twenty-five years since by the Rev. Patrick Bell, now minister of Carmyllie in Forfarshire. So far from this comparatively ancient instrument being in its dotage, it is decided to have fairly beaten Hussey's in formal competition, and was awarded the prize which it was probably thought, not long since, that Hussey's would carry off by merely "walking over the ground." But if Bell's machine be really entitled to the prize awarded it, what have the Highland Society been about for the last fifteen years? True, they did award Mr. Bell 50*l.* many years since for this very invention, but surely the purpose of such a society is something more than merely to pay prizes, and then to lay the chosen instrument on the shelf for so many years. The Royal Agricultural Improvement Society of Ireland have resolved to invite a trial of Bell's machine along with Hussey's at their forthcoming show, although, till a deputation saw Bell's at work, they intended only to have Hussey's. Bell's machine cut straight into the crop by a series of shears, 12 inches long, the horses working and following behind the clippers. We regret to observe that agricultural labourers in some parts of England are not only refusing to work with the reaping machines, and throwing other obstacles in the way, but are even breaking them to pieces.

A BRITISH INDUSTRIAL UNIVERSITY.—In course of last month it was announced in our columns that there was reason to believe His Royal Highness the Prince Consort "contemplated the foundation of a great building and establishment in which theory would be combined with practice, in the advancement of science and art, by a concentration of talent and skill." We believe we may now state without any impropriety that in all probability the surplus of 150,000*l.* and upwards, in the hands of the Royal Commission of the Great Industrial Exhibition of 1851, will be devoted to the foundation of an Industrial University in London, such as was long since mooted in *THE BUILDER*. This central concentration of science and industry will ultimately be organised, with radii or branch institutions, throughout the whole country; but we scarcely think that the Royal Commissioners, as has been stated, have as yet formed any definite scheme for the establishment of such a university, although it is their known design to carry out the idea.

THE ELECTRIC CLOCK.—Among all the wonders of that wonder-working principle, electricity, whether we view its power in the instantaneous conveyance of information between distant places, its agency in blasting rocks in safety, the deposition of metals from their solutions, or others of its numerous appliances, there is not one of them which strikes the mind as more extraordinary or interesting than its application as a prime mover for the measurement of time. "We believe," says a contemporary, in speaking of this subject, "that the first idea of working clocks by electricity is due to Mr. Alexander Bain, who commenced putting it in practice in 1837. His first attempt was to make a common clock transmit its time to other clocks at a distance, by the action of electro-magnets, in which he was perfectly successful. The next step was the application of the electric power to work single clocks, so that no winding might be required, and the common clock be dispensed with altogether. The ordinary galvanic apparatus was found, however, neither uniform nor lasting, giving more trouble and expense than the common clocks; and, in prosecuting his experiments, Mr. Bain, in 1842, discovered that a plate of zinc and one of copper, buried in the earth, gave a uniform and continuous

force of sufficient power to work clocks of any size, from the smallest mantel time-piece to large church clocks. In situations where it is inconvenient to obtain the electric current from the earth, the voltaic battery is resorted to; but in almost every case the first mode has proved the easiest, as well as the most effective. The cost of its plates is a trifle, and it has been ascertained that they will retain their efficacy for years. It is now shown to be possible that all the principal clocks in the kingdom might be united to keep time with one governing one, which, again, derives its moving power from the earth, without winding up or need of attendance of any kind from one year's end to the other." Mr. Bain's warehouse for these clocks is 43, Old Bond-street.

A FINE OPPORTUNITY.—It appears that Mr. B. Bond Cabbell has bought the whole of the town of Cromer with the exception of two houses, and about 12,000 acres of land. The purchase-money amounts to upwards of 60,000*l.* The property was lately possessed by the Misses Wyndham, two old ladies, who were much averse to improvements and alterations. Mr. Cabbell has now an opportunity to create a model town, and may, if he please, settle the sanitary question. What a thing it would be to add to the list of his good deeds, that he raised the character of a whole community, and lengthened the average of life in Cromer, say five years; and this he might do without much difficulty.

THE IRON TRADE.—The demand is not so brisk as it was a fortnight since. For home consumption especially there is but limited inquiry, the staple hardware manufactures of the district having made very little progress; while for export there is less inclination to buy, unless for immediate shipment, though large orders are in course of execution. Scotch pig iron also seems to have met with a considerable check, and is now quoted 2*s.* per ton lower. Staffordshire bar and rod iron may now be fairly quoted at 6*l.* per ton; hoops, sheets, and plates from 6*l.* 10*s.* to 8*l.* per ton; and pigs from 50*s.* to 65*s.* per ton.—*Birmingham Gazette.*

THE TRAMWAY IN MAIDEN-LANE, COVENT GARDEN.—An "Old Inhabitant" complains that in repaving this lane, the granite tramway, which saved much noise in this thoroughfare, is not being replaced. The traffic, especially in cabs, and above all, through the night, from the vicinity of the Adelphi Theatre and the Cyder Cellars, is constant, and the tramway was laid down expressly to obviate this nuisance. On inquiry, we cannot learn any reason for the removal of the tramway, or for the belief that sufficient supervision has been exercised in the repaving. The inhabitants themselves should look to it in time.

A FLOATING CITY.—The city of Bangkok, the capital of Siam, consists of a long, double, and in some parts treble, row of neatly and tastefully-painted wooden cabins, floating on thick bamboo rafts, and linked to each other, in parcels of six or seven houses, by chains, which chains were fastened to huge poles driven into the bed of the river. The whole city rose at once like a magic picture to our admiring gaze. . . . If the air of the "Fleet-street" of Siam does not agree with Mrs. Yowchowfow and her children, or they wish to obtain a more aristocratic footing by being domiciled higher up and nearer to the king's palace, all they have to do is to wait till the tide serves, and loosing from their moorings, float gently up towards the spot they wish to occupy. Bangkok, the modern capital of Siam, and the seat of the Siamese government, was computed, at the period of my residence there, to consist of seventy thousand floating houses or shops; and each shop, taking one with another, to contain five individuals, including men, women, and children; making the population amount to 350,000 souls, of which number 70,000 are Chinese, 20,000 Burmese, 20,000 Arabs and Indians; the remainder, or about 240,000, being Siamese. This was the best census we could take, and I believe it to be nearly accurate. The situation is exceedingly picturesque. I was told that, when the Siamese relinquished the ancient capital of Yuthia, and first esta-

blished the throne at Bangkok, the houses were built upon the banks of the river itself; but the frequent recurrence of the cholera induced one of the kings to insist upon the inhabitants living upon the water, on the supposition that their dwellings would be more cleanly, and, consequently, the inmates less subjected to the baneful effects of that scourge of the East.—*Neale's Residence in Siam.*

PREVENTION OF ACCIDENTS IN IRON FOUNDRIES.—A Staffordshire correspondent of the *Times* says, with reference to a recent upsetting of a crane ladle, with melted iron,—"I would place a vessel in the floor: the one I am in the habit of using is much in the shape of a boat, made of wrought-iron thin boiler plate. It is coated inside with loam, 'daubed,' as it is called in the trade, put on to a waggon, and run into the stove, and made thoroughly dry. This vessel is then placed at a proper height to allow the iron to run out of it into the mould, through a sluice prepared for the purpose. The melted iron can be taken from the furnaces with crane ladles and put into this vessel; and here you gain a double object. By this method you mix your iron before it goes into the mould, as it frequently happens you get dull or thick iron from the air furnaces when you get it very hot or fluid from the cupola; and, further, you have no fear of chains, or cranes, or leverage breaking, and running a great risk of destroying life and property. By this arrangement you see the iron before it goes into your mould; you entirely do away with all the confusion and bustle; your principal stands by the letting out place of the vessel, and lets it run out fast or slow, just as the article requires it. Heavy beams, large turn-tables, cylinders, and girders may be cast with the greatest safety by this means: you may empty as many cupolas and air furnaces, and even blast furnaces, into vessels thus fixed. I should urge upon manufacturers at once to abandon the system of suspending 10 or 12 tons of fluid iron in the air from a crane frequently as high as the workmen's heads."

THE IRISH DRAINAGE COMMISSION.—The commission issued by Government to inquire into the Irish drainage works is about to commence its inquiries. It appears that the investigation will be one of a comprehensive character, extending to works involving an expenditure of about two millions sterling.

AN ESSEX ARCHEOLOGICAL ASSOCIATION is about to be formed.

FISH PADDLES FOR STEAMERS.—A working shipwright at Liverpool, according to the local *Journal*, has patented (or secured for six months, at least, that capitalists may see) an invention for the propulsion of vessels by paddles shaped and working like fish fins, by means of which the inventor, Mr. Hampson, offers to beat both screw and wheel paddle.

ORIGIN OF AGRICULTURAL INVENTIONS.—From some remarks in the *Edinburgh Review*, it would appear that our American relatives are indebted to us not only for their stamina, their mother wit, and their ingenuity, but for some of their approved "original" inventions too. "A Scottish Presbyterian minister," says the *Review*, "puts together, in 1825, an adjustment of wheels and scissor-blades so working that when pushed along a corn field, it cuts down the grain as if done by hand, and far more cheaply and expeditiously. His brother, a farmer, improves upon and adopts this machine, and for a dozen successive years employs it in reaping his crops. The National Society gives the inventor a prize of 50*l.* but makes little noise about it, and although, in 1834, several were in operation in Forfarshire, few of the supposed wide-awake Scotch farmers thought of adopting it. But four of the machines were sent to New York from Dundee. Thoughtful, pushing emigrants, settlers in the North American prairies, saw, or heard, or read of these machines. The reaper was re-constructed, modified in different ways, by ingenious mechanics, was made by thousands for the farmers beyond the American lakes, and obtained a deservedly high reputation. Brought to London in 1851, the American reaping machine proved the main attraction of the United States' department of the Great